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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/633,671	08/07/2000	Robert Wayne Paglione	SAR 13385	3804

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EXAMINER

TRAN, DZUNG D

ART UNIT	PAPER NUMBER
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2633

12

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/633,671

Applicant(s)

PAGLIONE ET AL.

Examiner

Dzung D Tran

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 06/04/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Veselka et al. U.S. patent no. 5,963,567 in view of Logan Jr. U.S. patent no. 5,379,309.

In considering claim 1, Veselka discloses an apparatus for generating optical signals, the apparatus comprising:

a multi-wavelength source laser that generates wavelengths separated by approximately 64 GHz apart (i. e. 10 GHz to approximately 300 GHz) (figures 3a, 7, element 71, column 4, lines 4-17),

an optical demultiplexer (84) with a demultiplexer input (80), a first demultiplexer output (74a) and a second demultiplexer output (74b), the demultiplexer input (80) being coupled to said multi-wavelength source laser (figure 7), wherein said optical demultiplexer serves as a wavelength separator capable of selecting a first wavelength

for said first demultiplexer output and a second wavelength for said second demultiplexer output (figure 7),

an optical modulator (75a) having a modulator input (74a) and a modulator output, the modulator input (74a) being coupled to the first demultiplexer output (figure 7); and

an optical combiner (76) having a first combiner input, a second combiner input and a combiner output 77, the first combiner input being coupled to the modulator output 75a, the second combiner input being coupled to said second demultiplexer output 74b (see figure 7). Veselka differs from claim 1 of the present invention in that Veselka does not specifically disclose the source laser (71) is a mode-locked laser. Logan discloses a mode-locked semiconductor laser that generates mode-locked optical with emitted wavelengths separated by approximately 10 GHz to approximately 300 GHz (figures 2, 7, element 12, column 3, lines 14-27, column 6, lines 14-36). Since a multi-wavelength source laser of Veselka and a mode-locked semiconductor laser 12 of Logan does the same function that is generating an optical signal having wavelengths separated by approximately 10 GHz to approximately 300 GHz. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to replace a mode-locked semiconductor laser 12 of Logan with a multi-wavelength source laser of Veselka. One of ordinary skill in the art would have been motivated to do this order to obtain a desired mode locking range with the short, high repetition rate pulses from mode-locked semiconductor laser.

In considering claim 3, Veselka discloses a Mach-Zehnder modulator (figure 2, element 12, column 3, lines 51-67).

In considering claim 5, Logan Jr. further discloses in figures 1 and 2, for subtracting the difference between the modulated signal f1 and the second signal f2 (figures 1, 2, column 4, lines 34-41).

In considering claims 4 and 6, Logan Jr. further discloses downconverting means (column 2, line 61 to column 3, line 1, column 6, line 52 to column 7, line 6).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Veselka et al. U.S. patent no. 5,963,567 in view of Logan Jr. U.S. patent no. 5,379,309 and further in view of Hohimer et al. U.S. patent no. 5,349,601.

As per claim 1 above, Veselka and Logan Jr. disclose all the limitations except for the mode-locked semiconductor laser is a semiconductor racetrack laser. Hohimer discloses a racetrack laser (column 10, lines 20-60). At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to replace the racetrack laser of Hohimer with the mode-locked semiconductor laser of Logan Jr. and Veselka. One of ordinary skill in the art would have been motivated to do this for improving the pulse repetition rate in mode locked laser and characteristic such as operating wavelength definition and tuning.

Response to Arguments

4. Applicant's arguments filed on 06/04/2004 have been fully considered but they are not persuasive.

Applicant argues that Veselka does not teach "the first multiplexer input being coupled to the modulator output, the second multiplexer input being coupled to said second multiplexer output". However, as shown in figure 7, Veselka clearly discloses an optical combiner (76) (same as multiplexer) having a first combiner input, a second combiner input and a combiner output 77, the first combiner input being coupled to the modulator output 75a, the second combiner input being coupled to said second demultiplexer output 74b (please note that claim 1 **does not** claimed "the second combiner input being **directly coupled** to said second demultiplexer output").

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung Tran whose telephone number is (703) 305-0932.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jason Chan, can be reached on (703) 305-4729.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



**M. R. SEDIGHIAN
PRIMARY EXAMINER**